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abca1

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L2L1

ATP binding cassette?

7

L1

END OF SEARCH HISTORY

=> d 26,60,69 bib,ab

L3 ANSWER 26 OF 105 CA COPYRIGHT 2002 ACS

AN 135:17276 CA

TI **ATP-binding cassette** transporter A1 (ABCA1)  
affects total body sterol metabolism

AU Drobnik, Wolfgang; Lindenthal, Bernhard; Lieser, Bernd; Ritter, Mirko;  
Weber, Trudy Christiansen; Liebisch, Gerhard; Giesa, Uwe; Igel, Michael;  
Borsukova, Hana; Buchler, Christa; Fung-Leung, Wai Ping; Von Bergmann,  
Klaus; Schmitz, Gerd

CS Institute for Clinical Chemistry and Laboratory Medicine, University of  
Regensburg, Regensburg, Germany

SO Gastroenterology (2001), 120(5), 1203-1211

CODEN: GASTAB; ISSN: 0016-5085

PB W. B. Saunders Co.

DT Journal

LA English

AB Background & Aims: Members of the family of ABC transporters are involved  
in different processes of sterol metab., and ABCA1 was recently identified  
as a key regulator of high-d. lipoprotein (HDL) metab. Our aim was to  
further analyze the role of ABCA1 in cholesterol metab. Methods:  
ABCA1-deficient mice (ABCA1-/-) and wild-type mice were compared for  
different aspects of sterol metab. Intestinal cholesterol absorption was  
detd. by a dual stable isotope technique, and anal. of fecal, plasma, and  
tissue sterols was performed by gas chromatog./mass spectrometry. Key  
regulators of sterol metab. were investigated by Northern and Western blot  
analyses or enzyme activity **assays**. Results: ABCA1-disrupted  
sv129/C57BL/6 hybrid mice showed a significant redn. in intestinal  
cholesterol absorption. The decrease in cholesterol absorption was  
followed by an enhanced fecal loss of neutral sterols, whereas fecal bile  
acid excretion was not affected. Total body cholesterol synthesis was  
significantly increased, with enhanced 3-hydroxy-3-methylglutaryl-CoA  
(HMG-CoA) reductase obsd. in adrenals and spleen. In addn., ABCA1-/- mice  
showed markedly increased concns. of cholesterol precursors in the plasma,  
lung, intestine, and feces. Reduced HMG-CoA reductase mRNA and enzyme  
activity in the liver suggest that enhanced cholesterol synthesis in  
ABCA1-/- mice occurs in peripheral tissues rather than the liver.  
Conclusions: The metab. of cholesterol and cholesterol precursors is  
markedly affected by a lack of ABCA1 function.

RE.CNT 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD  
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L3 ANSWER 60 OF 105 CA COPYRIGHT 2002 ACS

AN 132:134526 CA

TI A multifunctional **ATP-binding cassette**  
transporter system from *Vibrio cholerae* transports vibriobactin and  
enterobactin

AU Wyckoff, Elizabeth E.; Valle, Ana-Maria; Smith, Stacey L.; Payne, Shelley  
M.

CS Department of Molecular Genetics and Microbiology, and Institute for  
Cellular and Molecular Biology, University of Texas, Austin, TX,  
78712-1095, USA

SO J. Bacteriol. (1999), 181(24), 7588-7596

CODEN: JOBAAY; ISSN: 0021-9193

PB American Society for Microbiology

DT Journal

LA English

AB *V. cholerae* uses the catechol siderophore vibriobactin for Fe transport  
under Fe-limiting conditions. Genes for vibriobactin transport were  
identified and mapped within the vibriobactin biosynthetic gene cluster.  
Within this genetic region, 4 genes, *viuP*, *viuD*, *viuG*, and *viuC*, were  
identified whose protein products have homol. to the periplasmic binding  
protein, the 2 integral cytoplasmic membrane proteins, and the ATPase

component, resp., of other Fe transport systems. The amino-terminal region of ViuP has homol. to a lipoprotein signal sequence, and ViuP could be labeled with [3H]palmitic acid. This suggests that ViuP is a membrane lipoprotein. The ViuPDGC system transports both vibriobactin and enterobactin in Escherichia coli. In the same **assay**, the Escherichia coli enterobactin transport system, FepBDGC, allowed the utilization of enterobactin but not vibriobactin. Although the entire viuPDGC system could complement mutations in fepB, fepD, fepG, or fepC, only viuC was able to independently complement the corresponding fep mutation. This indicates that these proteins usually function as a complex. V. cholerae strains carrying a mutation in viuP or in viuG were constructed by marker exchange. These mutations reduced, but did not completely eliminate, vibriobactin utilization. This suggests that V. cholerae contains genes in addn. to viuPDGC that function in the transport of catechol siderophores.

RE.CNT 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 69 OF 105 CA COPYRIGHT 2002 ACS

AN 130:234278 CA

TI **Assays** of dynamics, mechanisms, and regulation of ATP transport and release: implications for study of ABC transporter function

AU Schwiebert, Erik M.; Egan, Marie E.; Guggino, William B.

CS Department of Physiology, Johns Hopkins University School of Medicine, Baltimore, MD, 21205, USA

SO Methods Enzymol. (1998), 292 (ABC Transporters: Biochemical, Cellular, and Molecular Aspects), 664-675

CODEN: MENZAU; ISSN: 0076-6879

PB Academic Press

DT Journal

LA English

AB The development and use of **assays** designed to study the release of ATP that precedes its or its metabolites' extracellular agonist functions are described. Three different **assays** for studying the role of ABC transporters or other pathways in ATP transport and release are outlined. The first is a radiolabeled [ $\gamma$ - $^{32}$ P]ATP release **assay** in which the transport and release of loaded radiolabeled ATP is measured and trapped as  $^{32}$ P-labeled glucose 6-phosphate with the help of hexokinase. The second is a nonradioactive bioassay measuring released ATP as luminescence from the luciferase-luciferin reaction. Each ATP that is released creates a photon of light that is collected by a luminometer. The third is single-channel patch-clamp anal. of excised membrane patches of cells expressing cystic fibrosis transmembrane conductance regulator in which Cl<sup>-</sup> conduction vs. ATP- conduction can be measured. (c) 1998 Academic Press.

RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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(FILE 'HOME' ENTERED AT 12:20:27 ON 11 MAR 2002)

FILE 'CA' ENTERED AT 12:20:44 ON 11 MAR 2002

L1 1622 S ATP BINDING CASSETTE#

L2 324737 S ASSAY#

L3 105 S L1 AND L2